

Work Order ID 147271***147271***

Page 1

Wednesday, June 08, 2016 2:26:32 PM

Item ID: 646.9710 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Body
Start Date: 5/12/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 6/8/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: MJS Date: JUN 09 2016 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.9700	D2								
100	BAND SAW	0.00							DAS 33 9-89
100									
Bandsaw	Memo	0.14							
Jeaspa Bandsaw	Cut Blank at 7.425"								
110	HAAS CNC VERTICAL MACHINING #1	0.09							DAS 20 9-89
110									
HAAS 1	Memo	1.00							
HAAS CNC vertical machine #1	1-Machine per folio FB130 DWG REV: <u>D</u> FOLIO REV: <u>AA</u>								
	2- deburr and break all sharp edges								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
DAG 08 13.9									
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

Wednesday, June 08, 2016 2:26:32 PM

Page 2

10 SEP 08 2016 DAS 13 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Work Order ID 147271

Wednesday, June 08, 2016 2:26:32 PM

147271

Page 3

Item ID: 646.9710

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Body

Start Date: 5/12/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 6/8/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.03

Packaging

10x SP16-9-28

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.03

Quality Control

10

DAS
38
9-89

SEP 29 2016

180

Identify as per dwg & Stock Location: CK018

0.00

180

Packaging

Memo

0.02

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

10 SEP 29 2016

DAS
6
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
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				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 147271

Wednesday, June 08, 2016 2:26:32 PM

147271

Page 4

Item ID: 646.9710

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Body

Start Date: 5/12/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 6/8/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.17

Quality Control

DAS
21
9-89

SEP 3 0 2016

DAS
21
9-89

SEP 3 0 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Wednesday, June 08, 2016 2:26:35 PM

Page 1

Work Order ID: 147271

147271

Parent Item: 646.9710

646 9710

Parent Item Name: Body

Start Date: 5/12/2016

Required Date: 6/8/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A NEW ISSUE 12/10/04 JFS VERIFY BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X1.000		Purchased			No	100	f	5.8867	0.62	6.526316			
M7075T6B5 000X1 000									**			DAS 33 9-89	16/08/24
7075-T6 BAR 5.000" X 1.000"													

Location

Loc Qty

Loc Code

MAT005

5.8867

M127481

5.8867

M135003

1,420

5.02

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	147271
Description: Body		Part Number:	646.9710
Inspection Dwg: 646.9700 Rev: D2		Page 1 of 2	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.13 x 45°	+/-0.010 x 0.5°	.130x45°	✓		SL10	Vern
1.500	+/-0.005	1.500	✓		↓ Height gauge	
0.352	+0.005/-0.000	.354	✓			
0.10 x 45°	+/-0.010 x 0.5°	.098x45°	✓			
0.875	+/-0.005	.877	✓			
0.700	+/-0.005	.700	✓			
5.500	+/-0.005	5.500	✓			
0.660	+/-0.005	.660	✓			
0.660	+/-0.005	.660	✓			
0.278	+/-0.002	.278	✓			
0.339	+/-0.002	.338	✓			
0.352	+/-0.002	.352	✓			
0.372	+/-0.002	.372	✓			
1.067	+/-0.002	1.067	✓			
2.608	+/-0.002	2.608	✓			
2.750	+/-0.002	2.750	✓			
2.892	+/-0.002	2.892	✓			
3.348	+/-0.002	3.348	✓			
3.597	+/-0.002	3.597	✓			
3.847	+/-0.002	3.847	✓			
0.351	+/-0.002	.351	✓			
0.544	+/-0.002	.544	✓			
2.195	+/-0.002	2.195	✓		↓ Gauge Pin	
2.304	+/-0.002	2.304	✓			
2.451	+/-0.002	2.451	✓			
2.639	+/-0.002	2.639	✓			
3.395	+/-0.002	3.395	✓			
3.495	+/-0.002	3.495	✓			
4.551	+/-0.002	4.551	✓			
4.595	+/-0.002	4.595	✓			
4.687	+/-0.002	4.687	✓			
4.734	+/-0.002	4.734	✓			
6.651	+/-0.002	6.651	✓			
Ø0.201	+0.005/-0.001	.201	✓			



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05360

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED BY J. BECKER

DATE: 03/24/16

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY: ENGR. *[Signature]*

MFG. *[Signature]*

QC *[Signature]*

EFF. CURRENT ORDER

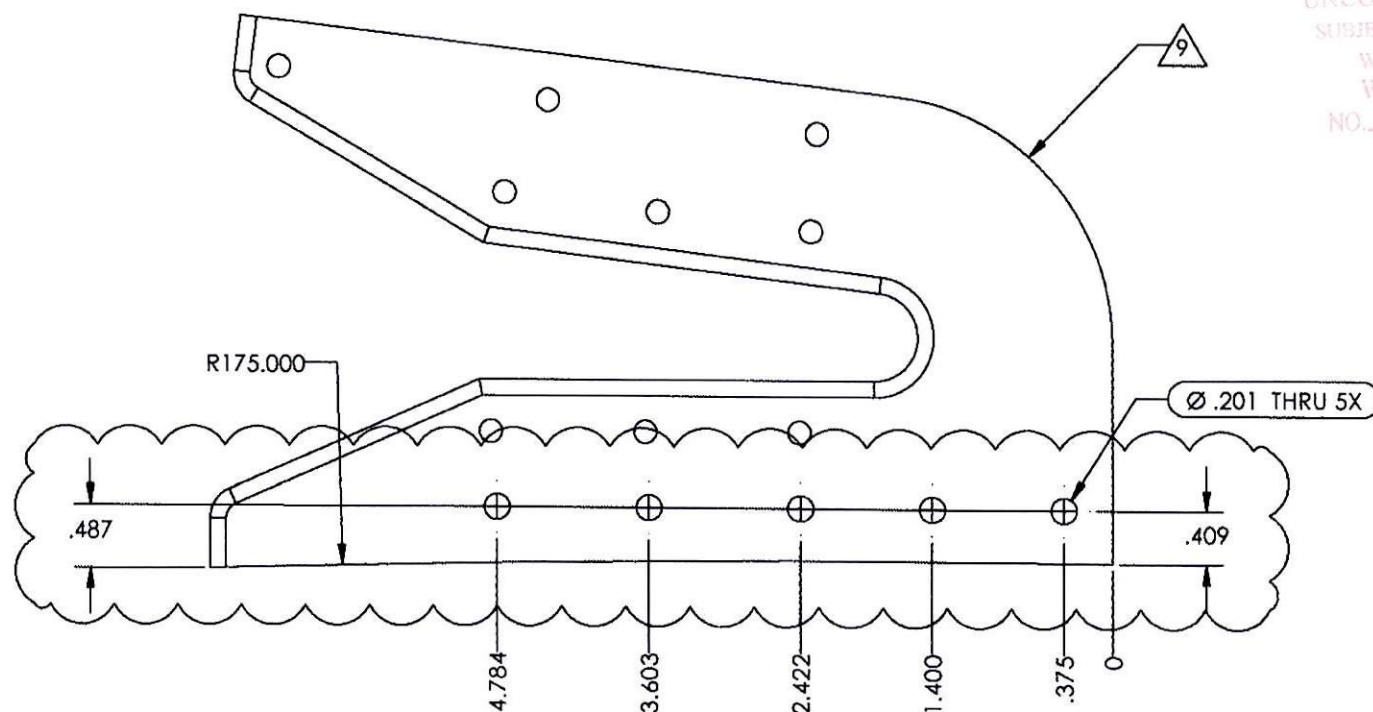
REASON: REVISED DIMENSIONS

ECR: N/A

ACTION ITEM:
1.

SHEET 7, ZONE C3 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 147271 MLS
160609



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DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05345

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED
BY

J. GARDINER

DATE: 03/15/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR.

MFG

QC

EFF.

CURRENT ORDER

REASON: REVISED NOTES

ECR:

N/A

ACTION ITEM:

1.

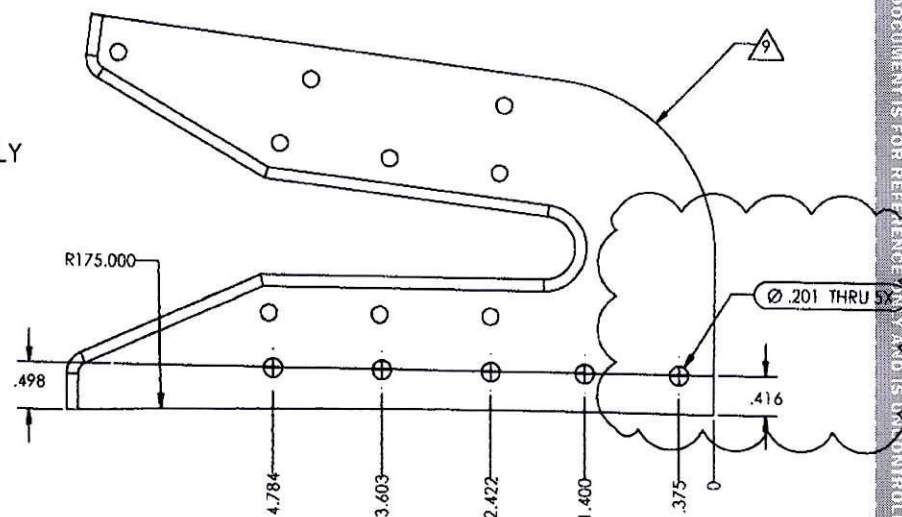
SHEET 1, ZONE A6 IS:

NOTES:

IS

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 2.1, 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

SHEET 7, ZONE C5 IS:



DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

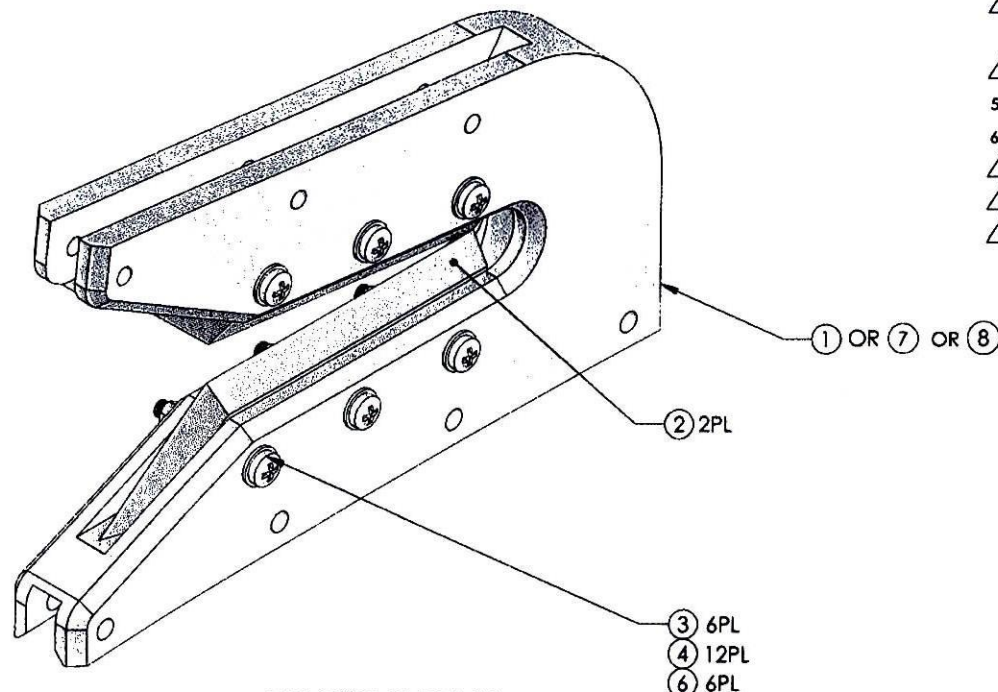
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION - PR2		NIC
NC	INITIAL RELEASE	05/27/05	P. BRAVO
A	INCORPORATED ECN 02744, 03838, 03912	06/06/13	P. BRAVO
B	INCORPORATED ECN 03917	07/03/13	P. BRAVO
C	INCORPORATED ECN 04039	08/06/13	P. BRAVO
D	INCORPORATED ECN 05329	02/26/14	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP. DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.



646.9701 SHOWN
646.9702 & 646.9703 TYP

UNINCORPORATED ECN(s)

05345, 05360,

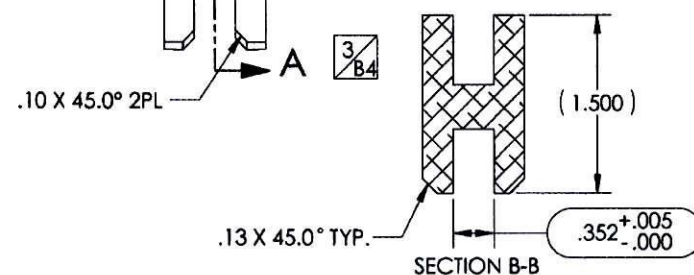
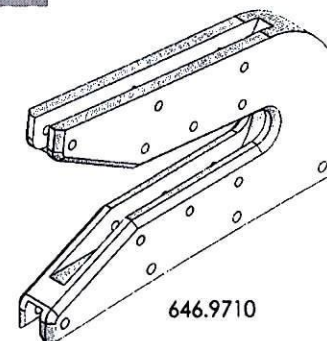
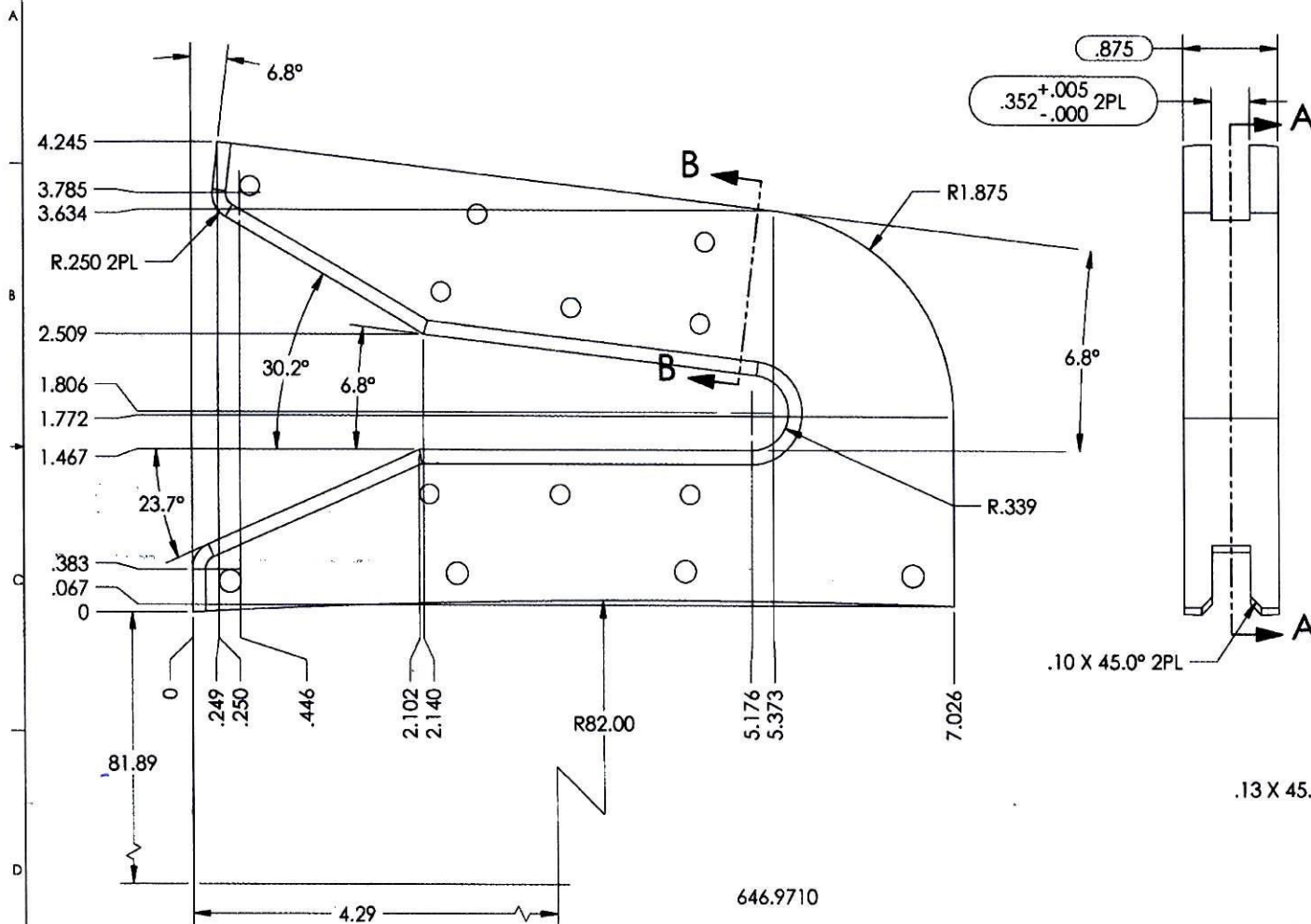
1			8	646.9713	BODY			
	1		7	646.9712	BODY			
6	6	6	6	601.1541	LOCKNUT	MS21042-08		
A/R	A/R	A/R	5	601.2045	RTV, LOCTITE 598			
12	12	12	4	601.2764	WASHER	MS21042-08		
6	6	6	3	601.2765	SCREW	MS22039-0819		
2	2	2	2	646.9711	BLADE			
			1	646.9710	BODY			
X				646.9703	CUTTER SUB ASSY			
X				646.9702	CUTTER SUB ASSY			
		X		646.9701	CUTTER SUB ASSY			
9703	9702	9701	FIND #	PART #	DESCRIPTION	MATL	SPEC.	
QTY	PARTS LIST							
NEXT ASSY (S)					DRAWN BY: DATE			
646.9600					05-27-05			
					CHECKED BY: DATE			
					P. BRAVO			
					APPROVED BY: DATE			
					P. BRAVO			
					CONTRACT NO.			
					UNLESS OTHERWISE SPECIFIED			
					DIMENSIONS ARE IN INCHES			
					TOLERANCES ARE:			
					2 PLACE DECIMALS ±.01			
					3 PLACE DECIMALS ±.005			
					ANGLES ±.5°			
					SER (CAGLCOON) DWG. NO.			
					B 07M26 646.9700			
					SCALE NONE			
					SHEET 1 OF 7			

DART 3030 ENTERPRISE CT., SUITE A
VISTA, CA, 92081
(760)-724-5300
APICAL INDUSTRIES INC.
D&A DART AEROSPACE

CUTTER SUB ASSEMBLY

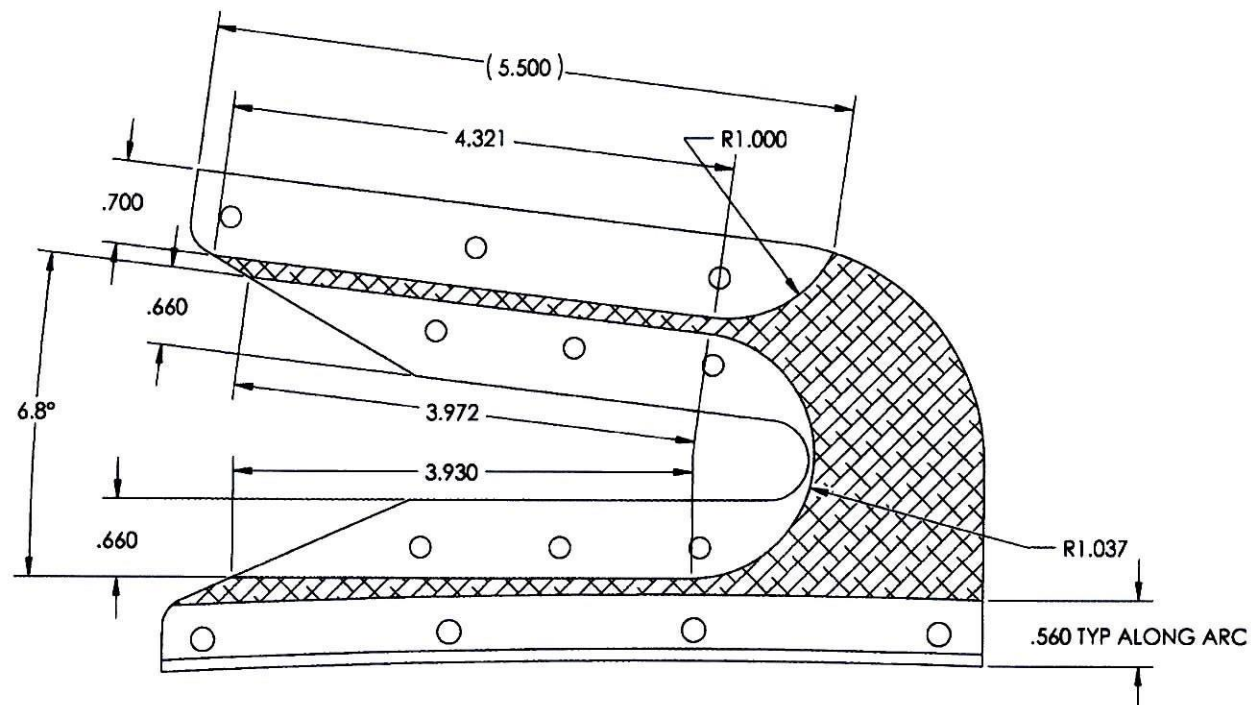
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ORIGINAL DATE 05-27-07		3030 ENTERPRISE CT., SUITE A, VISTA, CA. 92081 (760)-724-5300	
DRAWN BY R. ROSA	CHECKED P. BRAVO	DART AEROSPACE APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
TOOLING APPROVAL P. BRAVO		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .010 3 PLACE DECIMALS .005 ANGLES ± .5°		MATERIAL B 07M16	REV. D
SCALE NONE		SHEET 2 OF 7	

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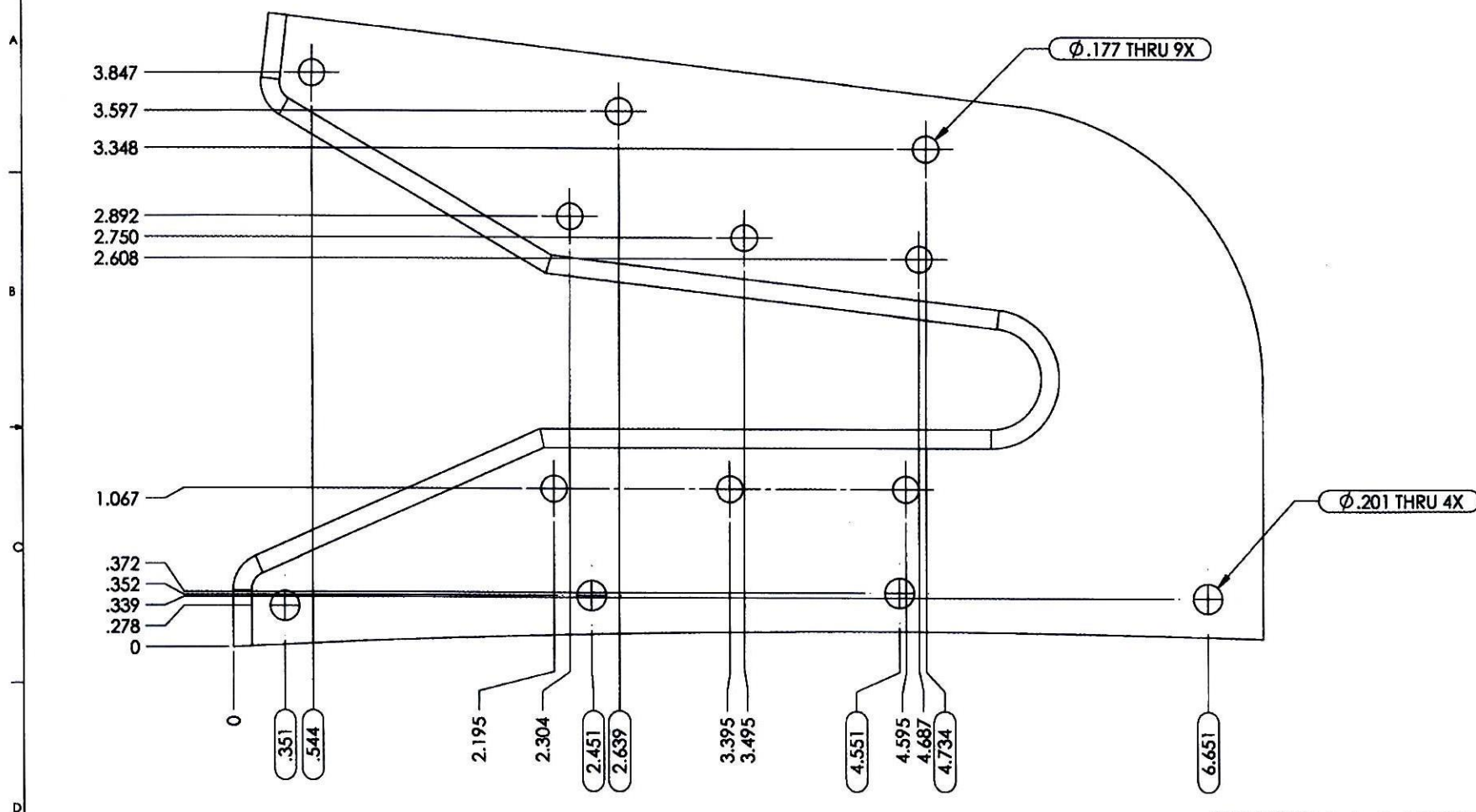


SECTION A-A $\frac{2}{C6}$

646.9710

ORIGINAL DATE 05-29-09	3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY E. ROSANO	CHECKED P. BRAVO	
DRAWING APPROVAL P. BRAVO 05-29-09		
CONTRACT NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		
SER B	CAGE CODE 07M26	DWG. NO. 646.9700
SCALE NONE		REV D
SHEET 3 OF 7		

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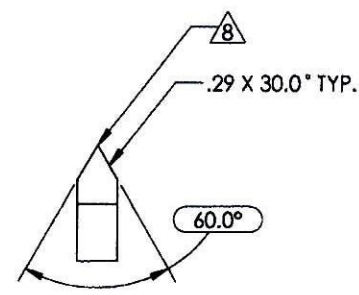
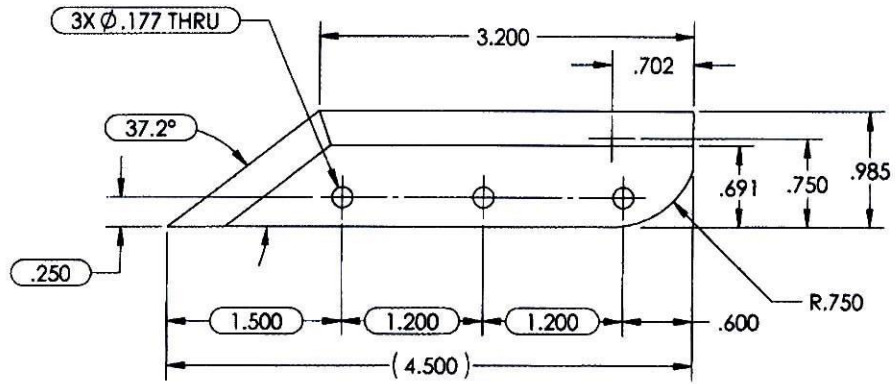
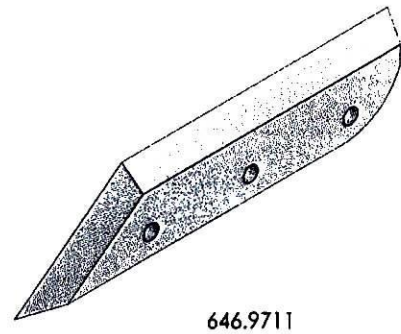
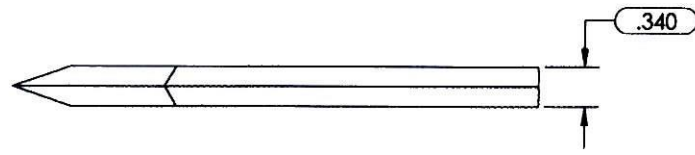


HOLE LOCATIONS +/- .002

646.9710

ORIGINAL DATE 05-29-07		DART AEROSPACE		3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760)-724-5300	
DRAWN BY E. ROSANO		CHECKED BY P. BRAVO			
DESIGNED BY P. BRAVO		APPROVED BY J. B. B. B.			
CONTRACT NO.		CUTTER SUB ASSEMBLY			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .001 3 PLACE DECIMALS .0005 ANGLES .5°		REV. B	CAGE CODE 07M26	DWG. NO. 646.9700	REV. D
SCALE NONE		SHEET 4 OF 7			

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646.9711

APCAL INDUSTRIES DBA DART AEROSPACE		3030 ENTERPRISE CT., SUITE A, VISTA, CA. 92081 (760)-724-5300	
CUTTER SUB ASSEMBLY			
DATE	03-79-09	REV.	D
DRAWN BY	CHUCKER	SCALE	NONE
BY	ROLAND	DATE	07/13/86
APPROVED	P. BRAVO	DWG. NO.	646.9700
CONTRACT NO.		SHEET	5 OF 7

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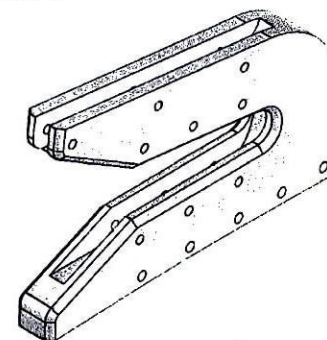
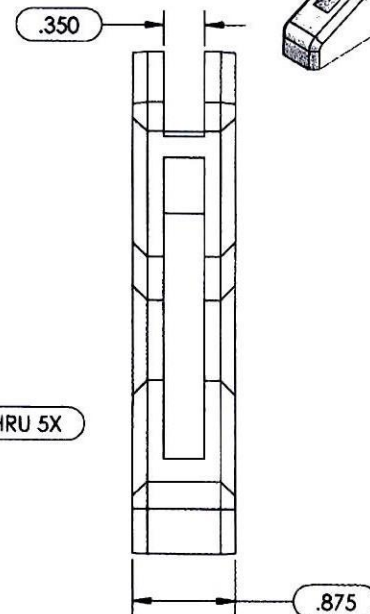
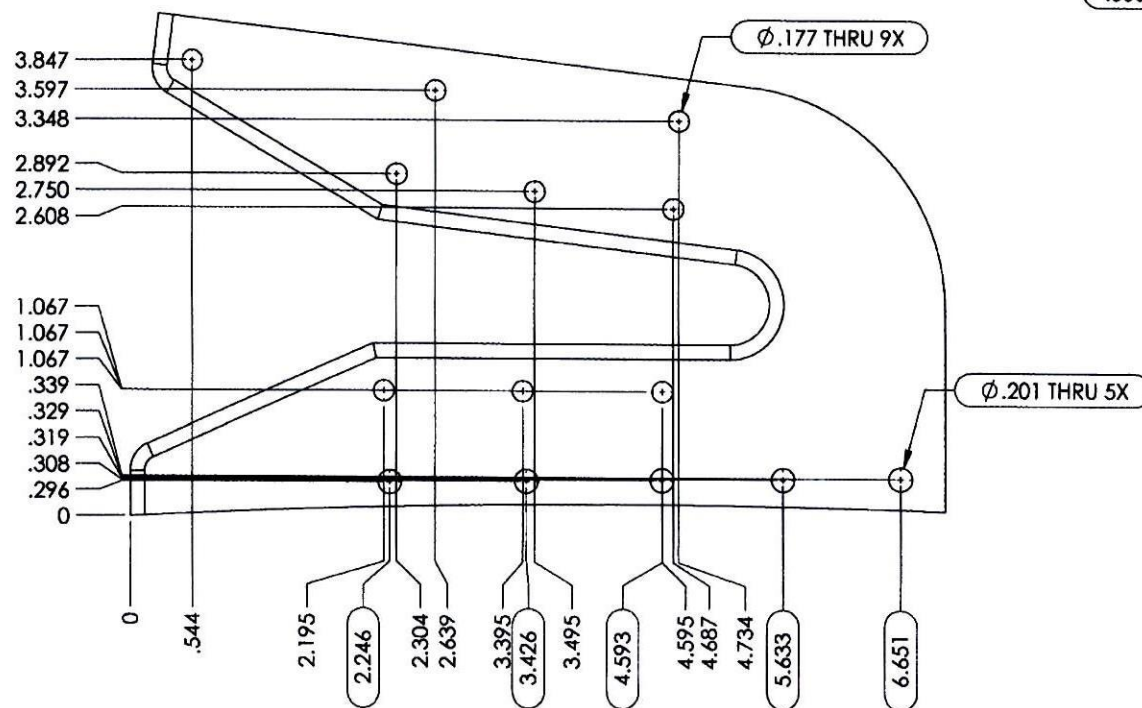
8

A

B

C

D



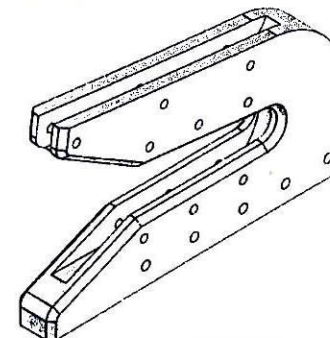
646.9712 9

646.9712

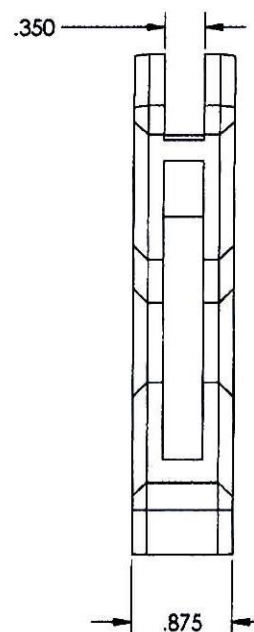
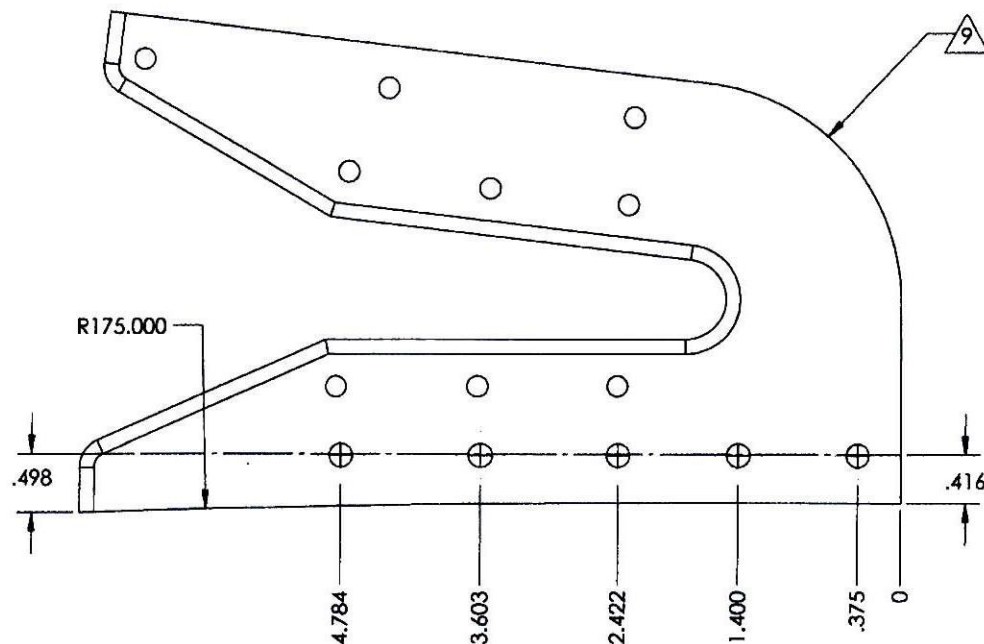
ORIGINAL DATE: 05-29-09		DART AEROSPACE 3030 ENTERPRISE CT., SUITE A, VISTA, CA 92081 (760)-724-5300	
DRAWN BY: R. ROBAHO		CHECKED BY: P. BRAYO	
DRAWING APPROVAL: J. M. ROY		APICAL INDUSTRIES, INC. (DBA DART AEROSPACE)	
CONTRACT NO.		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS .001, 3 PLACE DECIMALS .0005, ANGLES $\pm .5^\circ$		SHEET: 07M46	DWG. NO.: 646.9700
SCALE: NONE		REV: D	
		SHEET: 6 OF 7	

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646.9713



ORIGINAL DATE 03-22-09		3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760)-724-5300	
DRAWN BY J. POHNO		CHECKED J. BRAY	
DRAWING APPROVAL J. BRAY		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 1 PLACE DECIMALS ±.005 ANGLES ± .5°		REV B	REV D
CAGE CODE 07M26		DWG NO 646.9700	
SCALE NONE		SHEET 7 OF 7	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO33573**

Purchase Order Date 9/8/2016

PO Print Date 9/13/2016

Page Number 2 of 4

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total: \$63.20

4 147271

646.9710 BODY REV. D

9/22/2016

Yes

9/22/2016

10.00

\$14.50

\$145.00

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total: \$145.00

5 144770

647.2113 LOWER RAIL
REV. C

9/22/2016

Yes

9/22/2016

6.00

\$11.60

\$69.60

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total: \$69.60

6 150288

646.3719 DOUBLER
REV. A

9/16/2016

Yes

9/16/2016

7.00

\$6.25

\$43.75

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Note:

9/13/2016



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912311

Date: 27-Sep-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
1 ea	Part: ADMINISTRATION FEE ADMINISTRATION FEE Job: 20092		Rev: N/A PO: 33573 Line: 10
8 ea	Part: 646.3011 RH half Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20084		Rev: N/C PO: 33573 Line: 2
16 ea	Part: 646.3718 Custom washer Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20085		Rev: A PO: 33573 Line: 2
10 ea	Part: 646.9710 Body Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20086		Rev: D PO: 33573 Line: 4
6 ea	Part: 647.2113 Lower rail Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20087		Rev: C PO: 33573 Line: 5
7 ea	Part: 646.3719 Doubler Hard Anodize, Type III, Class 2 (MIL-A-8625)		Rev: A



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912311

Date: 27-Sep-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20088 PO: 33573 Line: 6		
7 ea	Part: 646.3719 Rev: A Doubler Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20089 PO: 33573 Line: 7		
6 ea	Part: 647.3914 Rev: C Breakaway Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20090 PO: 33573 Line: 8		
DATE: <u>27/9/16</u>			
CERTIFIED SIGNATURE: <u>[Signature]</u>			
RECEIVER SIGNATURE: <u>[Signature]</u>			
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
CERTIFICATE OF CONFORMANCE			
A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS.			
MADE IN CANADA.			